

Application No. 10/813,038
Reply to Office Action of January 4, 2005

AMENDMENTS TO THE DRAWINGS

The attached sheet of drawings includes changes to Figures 24 and 25, labeling them as "BACKGROUND ART."

Attachments: Replacement Sheets (2)

REMARKS/ARGUMENTS

Favorable consideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 4-18 are presently active in this case, with Claim 3 cancelled, Claims 4-7, 9, 11, and 13 amended and Claims 14-18 added by the present amendment.

In the outstanding Office Action, the drawings were objected; Claim 11 was objected to; Claims 3-5 and 12 were rejected under 35 U.S.C. § 102(b) as being anticipated by Houston (U.S. Patent No. 4,956,815); and Claims 6-11 and 13 were indicated as allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants acknowledge with appreciation the indication of the allowable subject matter.

Claims 4-7, 9, 11 and 13 are rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 4-5 are further amended to recite “said first resistance-adding transistor has its gate electrode directly connected to said power supply.” Claim 11 is further amended to overcome the objection noted in the Official Action. Claim 12 is amended to depend from now independent Claim 4. New Claims 14-18 correspond to Claim 12 and depend from now independent Claims 5-7, 9, and 11. No new matter is added.

In view of the outstanding indication of allowability and present amendment, Applicants submit Claims 6-7, 9, 11 and 13 are in condition for allowance without further comment.

Briefly recapitulating, amended Claim 4 is directed to a semiconductor storage device including a static random access memory cell. The static random access memory cell includes a first driver transistor, a first load element, and a first access transistor which are

connected to each other through a first storage node. The static random access memory cell also includes a second driver transistor, a second load element, and a second access transistor which are connected to each other through a second storage node. The first driver transistor has a first gate electrode connected to the second storage node. The second driver transistor has a second gate electrode connected to the first storage node. The semiconductor storage device further includes a first resistance-adding transistor having a first impurity-containing region connected to the first gate electrode and a second impurity-containing region connected to the second storage node. The first gate electrode is connected to the second storage node through said first resistance-adding transistor. The semiconductor storage device further includes a power supply connected to said first and second load elements, for giving a given power-supply potential. The first resistance-adding transistor is an NMOS transistor, and the first resistance-adding transistor has its gate electrode directly connected to the power supply. Applicants' claimed invention provides enhanced soft-error immunity.¹

Houston describes a memory cell which operates in two stable states and where an asymmetry in current through the cell is required to change the state of the cell.² Houston further describes a circuit having nodes S1 and S2.³ For the case where node S1 is initially logic high and node S2 is initially logic low, when attempting to write the opposite state into memory cell 2, node S1 must first be pulled to logic low. This logic low transition must be transmitted through transistor 20 which is in its most turned on state, to the common gate of transistors 6 and 8.⁴ Houston specifically describes that P-channel transistors 18 and 20 inhibit nodes S2 and S1 from going to a high voltage from a low voltage state in response to pulsed transient dose radiation due to the added resistance provided in the cross-coupling by

¹ Specification, page 12, lines 5-7.

² Houston, abstract.

³ Houston, Figure 2.

⁴ Houston, column 3, lines 35-43.

resistive paths between source and drain regions of transistors 18 and 20 when each is in its lower conducting state.⁵

Furthermore, Fig. 2 of Houston illustrates that a gate electrode of the first resistance-adding transistor 20 is connected to a power supply VDD through transistors 18 and 22. However, Houston does not disclose a circuit where a gate electrode of a first resistance-adding transistor is directly connected to a power supply for giving a power-supply potential as recited in amended Claim 4. Similarly, Houston does not disclose a circuit where a gate electrode of a first resistance-adding transistor is directly connected to a power supply for giving a GND potential as recited in amended Claim 5.

MPEP § 2131 notes that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). “When a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art.” *Brown v. 3M*, 265 F.3d 1349, 1351, 60 USPQ2d 1375, 1376 (Fed. Cir. 2001) (claim to a system for setting a computer clock to an offset time to address the Year 2000 (Y2K) problem, applicable to records with year date data in “at least one of two-digit, three-digit, or four-digit” representations, was held anticipated by a system that offsets year dates in only two-digit formats). See also MPEP § 2131.02. “The identical invention must be shown in as complete detail as is contained in the ... claim.” *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Because Houston does not disclose or suggest all the features recited in Claims 4-5, Houston does not anticipate the invention recited in Claims 4-5, and all claims depending therefrom.

⁵ Houston, column 4, lines 8-14.

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The present amendment is submitted in accordance with 37 C.F.R. § 1.116 which permits amendments placing the claims in better form for consideration on appeal after final rejection. Accordingly, in view of the present amendment and in light of the previous discussion, Applicants respectfully submit that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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